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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/849,309

05/07/2001

Shang-Ho Tsai

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09/22/2004

NIXON PEABODY, LLP
401 9TH STREET, NW
SUITE 900
WASHINGTON, DC 20004-2128

EXAMINER

WILLIAMS, LAWRENCE B

ART UNIT

PAPER NUMBER

2634

DATE MAILED: 09/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/849,309

Applicant(s)

TSAI ET AL.

Examiner

Lawrence B Williams

Art Unit

2634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 May 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-3, 9, 10, 13 and 14 is/are allowed.
- 6) ☒ Claim(s) 4-8, 11 and 12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 May 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The abstract of the disclosure is objected to because: Examiner suggests applicant insert an “a” between **in** and **discrete** in line 2.

Correction is required. See MPEP § 608.01(b).

2. The disclosure is objected to because of the following informalities: Examiner suggests applicant replace “is” with “are” in line 16 of page 1.

Appropriate correction is required.

3. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

5. Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicant's claim 4 recites the limitation “obtaining a second parameter (P2) by subtracting $MSE_{\max bs}$ from $MSE_{\min bs}$; “. Applicant has failed to define $MSE_{\min bs}$ thereby rendering the claim indefinite.

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6. Claim 5 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicant's claim 5 is dependent upon claim 1 and recites limitations "obtaining a fifth gain margin valve (Gmv5)" and "obtaining a fourth parameter (P4)". There is no (Gmv4), nor mention of a third parameter in claim 1. Examiner assumes applicant meant for claim 5 to depend upon claim 4.

7. Claim 6 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicant's claim 6 is dependent upon claim 1 and recites limitations "obtaining a seventh gain margin valve (Gmv7)" and "obtaining a sixth parameter (P6)". There is no (Gmv6), nor mention of a fifth parameter in claim 1. Examiner assumes applicant meant for claim 6 to depend upon claim 5.

8. Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicant's claim 7 is dependent upon claim 1 and recites limitations "obtaining a ninth gain margin valve (Gmv9)" and "obtaining a ninth parameter (P9)". There is no (Gmv8), nor mention of an eight parameter in claim 1. Examiner assumes applicant meant for claim 7 to depend upon claim 6.

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9. Claim 8 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicant's claim 11 recites the limitations "obtaining an eleventh gain margin valve (Gmv11)". Applicant fails to disclose (Gmv1-10). Examiner suggests applicant change eleventh to first and make corresponding changes throughout the claim.

10. Claim 11 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicant's claim 11 is dependent upon claim 9 and recites limitations "obtaining a third gain margin valve (Gmv3)" and "obtaining a second parameter (P2)". There is no (Gmv1 or Gmv2), nor mention of a first parameter in claim 1. Examiner assumes applicant meant for claim 11 to depend upon claim 10.

11. Claim 12 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicant's claim 12 is dependent upon claim 9 and recites limitations "obtaining a fifth gain margin valve (Gmv5)" and "obtaining a fourth and fifth parameter (P4, P5)". There is no mention of a Gmv1- Gmv4, nor mention of a first-third parameter in claim 1. Examiner assumes applicant meant for claim 12 to depend upon claim 11.

Allowable Subject Matter

12. Claims 1-3, 9, and 13-14 are allowed.
13. Claims 4-8, 11, and 12 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.
14. The following is a statement of reasons for the indication of allowable subject matter: The instant application discloses a method and apparatus to select an optimal swapping technique in a discrete multi-tone system. A search of prior art records has failed to teach a method and apparatus comprising “determining a first index value (I) and a second index value (J) based on MSE_{max} , MSE_{min} and said gain factor constraints according to a predetermined manner, I denoting range of improvement when adopting the gain-swapping ms the swapping technique, and J denoting range of improvement when adopting a combination of the gain-swapping and the bit-swapping as the swapping technique; determine whether larger one of I and J is larger than T; if the larger one of I and J is larger than T, determining whether I is equal to or larger than J; and selecting the gain-swapping as the swapping technique if I is equal to or larger than J” as disclosed in claims 1 and 9.

Conclusion

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lawrence B Williams whose telephone number is 571-272-3037. The examiner can normally be reached on Monday-Friday (8:00-5:00).

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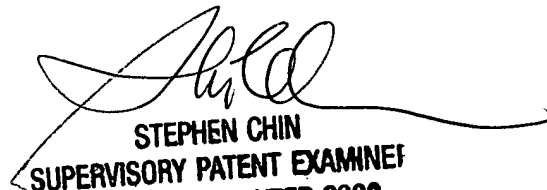
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on 571-272-3056. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lawrence B. Williams

lbw

September 9, 2004


STEPHEN CHIN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800